

What is claimed is:

1. A method of transporting information in radio protocol frames in an MPLS (multiprotocol label switching) based transport network, comprising the steps of:  
     setting up at least one label switched path in the network;  
     encapsulating radio protocol frames in MPLS packets; and  
     forwarding the packets through the network using label switching.
2. The method according to claim 1, wherein the method further comprises the step of using constraint based routing to set up the at least one label switching path.
3. The method according to claim 1, further the method further comprising the step of marking a header of each MPLS packet for label switching before forwarding the MPLS packet.
4. A method of providing differentiated QoS (quality of service) in an MPLS (multiprotocol label switching) based transport, comprising the steps of:  
     establishing a single first label switching path having at least one label switching router, the first label switching path being a connection between a base station and a radio network controller, the base station having a plurality of traffic classes of traffic;  
     establishing a single second label switching path having at least one further label switching router, the second label switching path being a connection between the base station and the radio network controller, the radio network controller having a plurality of traffic classes of traffic;  
     marking a field of an MPLS header at a label switch router at an ingress to a respective label switching path of the first and second label switching paths to identify respective traffic classes of traffic being carried by a respective one of the base station and radio network controller; and  
     forwarding the traffic within the respective label switching path based on the marked field.
5. The method according to claim 4, wherein the method further comprises using constraint based routing to establish a respective label switching path.

6. The method according to claim 4, wherein the MPLS header is associated with a packet carrying radio protocol frames, and wherein the packets are forwarded along a respective label switching path using label switching.
7. The method according to claim 4, wherein the method further comprises encapsulating a payload in MPLS packets that form the traffic.
8. A method of providing differentiated QoS (quality of service) in an MPLS (multiprotocol label switching) based transport network, comprising the steps of:
  - establishing first multiple label switching paths, each of the first label switching paths having at least one label switching router, and each of the first label switching paths connecting a base station to a radio network controller, the base station having a plurality of traffic classes of traffic;
  - establishing second multiple label switching paths, each of the second label switching paths having at least one label switching router, and each of the second label switching paths connecting the radio network controller to the base station, the radio network controller having a plurality of traffic classes of traffic;
  - marking a field of an MPLS header at a respective label switch router at an ingress to a respective label switching path of the first and second multiple label switching paths, such that each respective label switching path carries a different respective traffic class of the plurality of traffic classes; and
  - forwarding the traffic within the label switching paths based on the marked field.
9. The method according to claim 8, wherein the method further comprises using constraint based routing to establish the label switching path.
10. The method according to claim 8, wherein the MPLS header is associated with a packet carrying radio protocol frames, and wherein the packets are forwarded along the path using label switching.
11. The method according to claim 8, wherein the method further comprises assigning each label switching path at least one attribute in order to provide differentiated QoS to multiple classes of traffic.
12. The method according to claim 8, wherein the method further comprises encapsulating a payload in MPLS packets that form the traffic.

13. A system for providing differentiated QoS (quality of service) in an MPLS (multiprotocol label switching) based transport network, the system comprising:
  - a computer including a storage for storing data and instructions and a processor for executing instructions stored in the storage, the storage containing instructions corresponding to:
    - a setup component that establishes a single label switching path having at least one label switching router, the label switching path connecting a base station to a radio network controller, a respective one of the base station and radio network controller having a plurality of traffic classes of traffic;
    - a marking component that marks a field of an MPLS header at a label switch router at an ingress to the label switching path to identify the traffic classes of traffic being carried by the respective one of the base station and radio network controller; and
    - a packet forwarding component that forwards the traffic within the label switching path based on the marked field.
14. The system according to claim 13, wherein the MPLS header is associated with a packet carrying radio protocol frames.
15. The system according to claim 13, wherein the setup component encapsulates payloads in MPLS packets that form the traffic.
16. A system for providing differentiated QoS (quality of service) in an MPLS (multiprotocol label switching) based transport network, comprising:
  - a computer including a storage for storing data and instructions and a processor for executing instructions stored in the storage, the storage containing instructions corresponding to:
    - a setup component that establishes multiple label switching paths, each of the label switching paths having at least one label switching router, and each of the label switching paths connecting a base station to a radio network controller, a respective one of the base station and radio network controller having a plurality of traffic classes of traffic;
    - a marking component that marks a field of an MPLS header at a respective label switch router at an ingress to a respective label switching path of the

multiple label switching paths, such that each respective label switching path carries a different respective traffic class of the plurality of traffic classes; and  
a packet forwarding component that forwards the traffic within the label switching paths based on the marked field.

17. The system according to claim 16, wherein the MPLS header is associated with a packet carrying radio protocol frames.
18. The system according to claim 16, wherein each label switching path has assigned thereto at least one attribute in order to provide differentiated QoS to multiple classes of traffic.
19. The system according to claim 16, wherein a payload is encapsulated in MPLS packets that form the traffic.
20. A method of transporting information in radio protocol frames in an MPLS (multiprotocol label switching) based transport network, comprising the steps of:  
setting up at least one label switching path having at least one label switching router, the at least one label switching path being a connection between a base station and a radio network controller, at least one of the base station and the radio network controller having a plurality of traffic classes;  
encapsulating radio protocol frames in MPLS packets; and  
forwarding the packets over the at least one label switching path using label switching to thereby carry the multiple classes of traffic via the at least one label switching path.
21. The method according to claim 20, wherein the method further comprises using constraint based routing to establish the at least one label switching path.
22. The method according to claim 20, wherein the method further comprises using a plurality of label switching paths, and wherein respective label switching paths of the plurality of label switching paths carry respective classes of traffic of the plurality of traffic classes.